a second mode of operation wherein said upstream oxygen sensor determines a second air-fuel mixture of said internal combustion engine, and wherein a future engine operating event that will change an engine exhaust gas constituent in the engine exhaust gases is predicted, and wherein an oxygen content downstream of a catalyst coupled to said engine is determined, and wherein said controller adjusts a second engine fuel amount based at least on said determined second air-fuel mixture, said predicted future engine operating event, and said downstream oxygen content; and

operating in said first mode during a first temperature of said second oxygen sensor, and operating in said second mode of operation during a second temperature of said second oxygen sensor.

- 15. (new) The method of Claim 15Awherein said future engine operating event is an increase in inducted air into said engine.
- 16. (new) The method of Claim 18/14 wherein said adjusted second fuel amount is enriched prior to said future engine operating event.
- 17. (new) The method of Claim 15/wherein said exhaust gas constituent is NOx.